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Communications.

INSTRUMENTAL DIAGNOSIS.

By Philip S. Wales, M. D.,
Of Philadelphia.

(*Continued from page* 30.)

These difficulties, originating in peculiarities of anatomical structure and action of the soft palate and tongue, have been met by various contrivances, designed to remove them, or at least to diminish their influence, and to gain the requisite amount of quietude and space. The palate hook would seem to present the requisite means for controlling the palatal movements in such cases, but a little experience will serve to alter our views in this respect, for the energetic action of this membrano-muscular expansion cannot, as a general rule, be so controlled. In the case above alluded to, the hook even was drawn up with the palate, and it would have been impossible to have pulled the latter forward without danger of lacerating the tissue. Türck has suggested a number of instruments to fulfill the indications, such as putting a horizontal gutter upon the point of the palate hook, with the view of catching upon the posterior edge of the velum, and thus preventing it from slipping off; mounting clamping jaws to catch the uvula upon a metallic stem after the manner of a lithotrite, and finally an instrument with separable rectangular points, which, when opened, catch one upon the edge of the velum, the other upon the pharyngeal wall. All of these instruments, however, have been relegated to disuse, which they justly merit, both on account of their inefficiency and danger. Other instrumental suggestions have been offered, but we believe as yet nothing has been effected in this direction to overcome the palatal contractions. We may sometimes get the velum in the proper position by directing the patient to pronounce some vowel sound, *eh!* or to take a deep breath; but in our experience nothing answers so well in checking the irritability and giving us a chance to put the stem behind the velum as ice; a little piece may be held in the mouth, well back, and permitted to gradually melt, or pounded ice may be put in an India-rubber bag and applied to the outside of the throat, as we often do in laryngoscopy.

The difficulties encountered from the tongue are much more easily met. The case we have come to cite shows that the base of the organ ascends occasionally towards the palate in a most obstinate manner when the person is didirected to open his mouth widely. Indeed, it requires considerable practice for any person to voluntarily hold the tongue well down in the mouth. Careful manipulation with the spatula will, in almost all cases, enable us to overcome any difficulties in this respect.

By inspecting the throat we can easily determine the probabilities of the success of a rhinoscopic examination. When the velum hangs well forward from the posterior wall of the pharynx, giving us plenty of room to place and manœuvre the small mirror, and the tongue does not rise much towards the palate, on the patient's being directed to open the mouth, the conditions are favorable and the chances of a successful exploration very much enhanced. No attempts, that I am aware, have been as yet made, as have been in laryngoscopy, to tabulate rhinoscopic experience, showing the proportion of cases in which the procedure is impossible or extremely difficult, and it will require some years more before the observations of physicians will aggregate a sufficient number to afford reliable deductions.

We have now mentioned the chief difficulties the rhinoscopist will be called upon to encounter, and how they are to be met; but it must be observed, under circumstances ever so favorable for the attainment of his object, he needs all his patience and tact gained by repeated examinations and minute attention to details of practice, to obtain all the aid capable of being supplied by his art.

The next step will be to point out the preliminaries of the examination. The patient may be conveniently seated by a table having upon it the illuminating apparatus, his head erect, and mouth about the level of the eye of the observer. Voltolini recommends that the head be a little bent forward, that the uvula and velum may be carried forward by their gravity, while on the other hand, Moura-Bourouillon suggests exactly the reverse, which position, according to him, throws the vertical plane of the posterior nares at a greater angle with the pharyngeal mirror, and thus facilitates the illumination of the inferior portion of the plane. Semeleder advises the erect position, as we have done. The light is to be placed at the side of and behind the plane of the patient's face, and sufficiently high to be just above the eye of the observer, in the manner we have already described and shown in Fig. 7. When speaking of Semeleder's mirror, if that instrument be employed, we should then direct the patient to open his mouth widely and having introduced the spatula with the left hand, depress the tongue downward and forward, the right hand now takes the mirror; and holding the latter with the face downward over the chimney of his lamp a moment to warm, first touches his hand or cheek with the back of the mirror, to be sure that it is not too hot, and then passes it directly over the spatula until its upper border nearly touches the posterior pharyngeal wall, and is situated below the uvula. The plane of the mirror should be made to assume an angle with the horizon of about 130° and held well down in the throat,

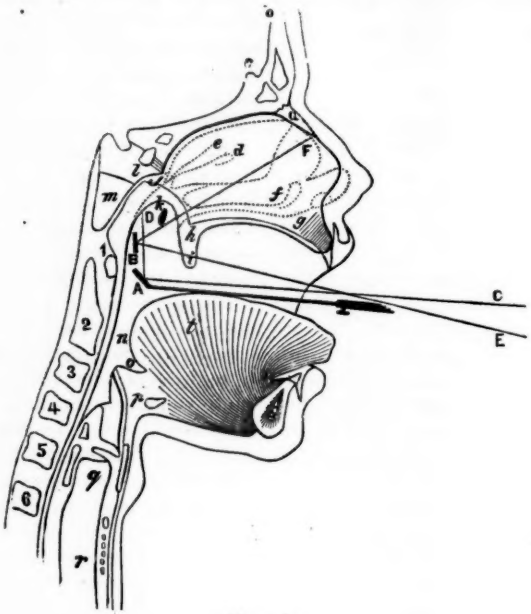

FIG. 10.

as shown in Fig. 10, A; by this arrangement a ray of light, C, striking upon the mirror is thrown to the vault of the pharynx at D, which latter point becomes visible; if the handle of the instrument be now elevated a little, the posterior wall of this cavity will be seen; by depressing it the illuminating ray will again impinge upon the roof. By still further depressing the handle and raising the mirror to the position, as shown in B, the ray of light, E, impinging upon the mirror is reflected into the posterior nares at F, which point becomes visible. Now, by sliding or inclining laterally the mirror, the Eustachian orifices, shown at K,

may be examined, the sinus of Rosenmüller and the lateral pharyngeal walls. When the mirror is once in the throat, we thus move it first in this, then in that direction, until we have completed our examination. Of course we get the brightest and most natural image when the mirror and object we desire to inspect are directly opposite, while the more we have to incline it, to view the lateral and upper portions of the nares, the image becomes foreshortened. For this reason, it is obvious that the observer will do well to secure this advantage as far as may be by shifting his mirror well up in the pharyngeal cavity, as shown in the figure. The instrument may be steadied in making these motions, by placing the little and ring finger upon the patient's lower jaw.

When, for any reason, we employ means for drawing the velum and uvula forward, then another deposition will be required, for this adds another instrument, and the physician has already both hands employed in practicing the foregoing plan, one using the mirror and the other the spatula. We pursue exactly the same course as regards light and position of the patient's head, and only deviate from that plan at the point when the spatula is introduced. Then the observer transfers this to the patient, and thus liberates his hand, with which he now takes the hook, warming it first before he passes it back behind the uvula, which he gently draws forward, taking care to keep the handle of the hook to one side, both with a view of getting his own hand out of the line of vison, and of more surely, by its oblique direction of sustaining the velum, and preventing the the uvula from slipping from the hook. A arger mirror may now be employed by thus amplifying the space; it is passed in with the right hand in the media line until its upper border rests just back of the angle of the hook. When placed at the angle we have indicated, we get a glance of the posterior edge of the septum narium, then giving it more or less inclination in the media line, we can study the appearance of the posterior rhinal plane; by moving it laterally, the walls of the parynx and entrance of the Eustachian tubes may be carefully scrutinized; but these portions are much more difficult to inspect.

It is easily comprehended that the image seen in the mirror, from the law of action of plane mirrors, is reversed laterally; thus, the right turbinate bone will be on the left side of the mirror, and *vice versa*; it will only be necessary for the student to write his name in capitals on a slip of paper, place it before a looking-glass, and view the image; the letters will be erect, but in an inverse order, the first one being seen on the left hand side in the glass, while it occupies the right hand place on the paper.

The neophyte in rhinoscopic manipulation will do well to study the picture presented in the normal condition of the naso-pharyngeal cavity, and seek every opportunity of familiarizing himself with it by practice upon himself and friends. The task is no easy one under the most favorable circumstances, as the writer can testify from personal experience; but with perseverance, the necessary manual dexterity will eventually crown persistent efforts, and he will be enabled thereby to acquire that amount of accurate physiological and pathological knowledge that alone responds to the requirements of a rigid and truthful diagnosis.

The cursory account we have given of the anatomy of the naso-pharyngeal space, drawn from the dead subject, will not convey him a knowledge of the appearances presented in life by the rhinoscopic mirror, and, therefore, it will be our endeavor to describe what he will see; and in order to render the comprehension of the matter more easy, also present a sketch of the appearances. The small size of the mirror, and the fact that the parts in the naso-pharyngeal cavity are not all in the same plane, preclude the possibility of our gaining an entire image of all these parts in one position of the mirror, or even of the greater portion of them. On the contrary, but a moiety can be seen in the mirror, so that in order to inspect the whole of the region, the reflecting surface must be turned in various directions, and successive parts examined, one after another, until the entire picture is completed. In my own person, from which the annexed drawing (Fig. 11) is made, both

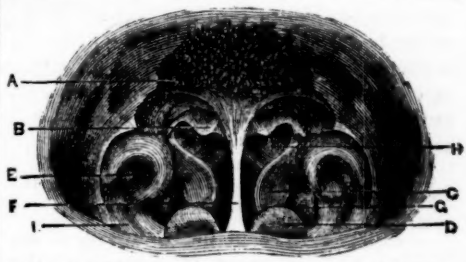

Fig. 11.—View of the Posterior Nares.

choanæ, half of both Eustachian tubes, and the upper two-thirds of the posterior rhinal plane, can be seen in the image. The observer will do well, in making the examination, to begin at the Eustachian orifice instead of the median septum, as usually directed. When the mirror is in the position indicated at D, in Fig. 10, and turned a little to one side, the prominent rounded and nipple-like orifices of the Eustachian tube, E, is in view, generally with a little patch of yellowish mucus in the depressed centre; above this is a depression between the lines A and B, the sinus of Rosenmüller, which is really behind the aperture instead of above it, as shown in the mirror. Still higher at A we come to the roof of the pharynx. Below the Eustachian orifice, sweeping around into the velum as seen at I, is a prominent fold, formed by the levator palati. Give the mirror a little less inclination, and the choanæ come into view. The superior turbunate bone B is directly seen high up in the oval-shaped orifice as a small triangular projection; below this is the darker space H, of the superior meatus, which is the longest of the three. The middle turbinate, C, is well defined and of a characteristic pyriform shape, projecting towards the septum, its lower portion slightly concealed by the inferior turbunate bone, D. The mucous membrane covering it is of a grayish white, or pinkish hue, which, together with its shape, has led to its being mistaken in several instances for a nasal polypus. Beneath the middle turbinate is the middle meatus, G, bounded on the outer side (I am speaking of the mirror picture) by the prominent edge of the Eustachian tube. The inferior turbinate bones, D, are rounded or globular-shaped elevations at the base of the choanæ, and pale in color. The inferior meati are below them, but they are not shown in the drawing. By careful attention, and peering into the posterior nares, we may see always the lateral surface of the middle turbinate bone deep into the cavity. If the mirror be turned square to the front, we see the septum above, broad and pinkish-yellow in color, gradually diminishing downwards; in the lower half of the septum the color becomes lighter.

V. APPLICATION OF RHINOSCOPY IN THE STUDY OF MORBID CHANGES.

The explorations of the rhinoscopist are pursued with the view of discovering the nature and extent of disease, not only of the naso-pharyngeal cavity, but also of those of the Eustachian tube, and in no other way can the latter be made evident to the eye; hence, aural surgery has received important aid from this art. The parts entering into the formation of the cavity are subject to the same changes in analogous tissues in other parts of the body. We have aggregated, in this small space, bone, muscles, fibrous and mucous membranes, with their glandular appendages, all subject to inflammation and ulceration—common and specific, caries, necrosis and hypertrophies, neoplastic productions of varying character, with the various secondary changes induced by pressure in their growth upon the surrounding parts, and finally they may become the seat where foreign bodies lodge, and give rise to most persistent and distressing symptoms.

As diseases of the pharynx become better understood, we shall, I think, find that even disturbances of remote organs may also be induced by morbid processes going on here. We know that these parts are thoroughly supplied by blood vessels and nerve-filaments, both sensative and motor, from the fifth, facial glosso-pharyngeal, pneumogastric, spiral—accessory and the sympathetic—the otic and spheno-palatine ganglious. We have also to learn the influence of the pharyngeal secretion, which is often copious, upon the œsophagus and stomach, which do not seem, as far as observation has been carried to determine the question, to be tolerant of any great amount of it; and it has been suggested that the morning vomiting of habitual tipplers, who are so frequently affected with chronic pharyngitis with plentiful secretion, may in part originate from reflex action in the efforts of the pharyngeal muscle to disembarrass themselves of this secretion, or the result may be due to the direct action of the matter upon the lining membrane of the stomach. The nervous connection of the pharynx with other parts may also help to explain some of the cases of neuralgic pains in the head dependent upon chronic pharyngitis.

Before these topics are touched upon, however, I must call attention to the great importance of having the parts above alluded to thoroughly cleansed from all adherent crusts, pus, mucus, and air bubbles, which are calculated, if permitted to remain, to obscure or even conceal them entirely, thus preventing the physician from either appreciating the

true condition of the parts beneath, or misleading him as to the character of the appearances presented. This object may be attained by any of the various forms of nasal douches recommended; but I have succeeded with none of these so well as with the simple instrument I have long used, and elsewhere described. It consists of a long slender-tube of vulcanized rubber, or of glass, bent at the distal extremity into a hook, the point of which is perforated with holes, or narrowed by compression into one constructed aperture; the proximal end is furnished with an India-rubber ball pump. With this apparatus a continuous stream can be passed through the nares to wash out these cavities, or medicated solutions brought in contact with them. The best manner of making this irrigation or injection, is to place the patient in a chair facing the window, with his head thrown back and his mouth widely open; the operator then passes the long tube held in his right hand through the fauces, and hooks its point behind the soft palate, and after flexing the patient's head he forces the stream—warm water or other fluid—into the posterior nares, which finally escapes in a stream from the nostrils. TRÖLTSCH, of Würzburg, to clean out the secretions of greenish grey mucus collecting often in the upper part of the pharynx about the Eustachian orifices, as well as to diminish the fœtid smell from the nose and pharynx, employs repeated injections of cold or luke-warm water with a long silver tube, which he describes as of the same length as the Eustachian catheter, with distal end closed, but the sides near the point perforated with little holes; in order that the patient may better apply the syringe himself, the outer extremity is bent nearly to a right angle.

To remove the air bubbles which obscure inspection, it has been advised, to blow through the patient's mouth, or better, as Voltolini recommends, remove them with a camel's hair brush.

In considering the diseases of the naso-pharyngeal cavity, we shall proceed in an anatomical order, beginning with those of the mucous membrane, then those of the muscles, of the bones, and, lastly, those of the Eustachian tubes. Catarrhal inflammation of the mucous membrane is the most common pathological condition that the physician is called upon to treat which for convenience in describing its various sorts, as determined by locality, we propose to consider under two heads: 1st. Rhinitis; 2nd. Pharyngettis.

1. Rhinitis, or inflammation of the rhinal mucous membrane, is most frequently observed under an acute form, accompanied with a similar condition of the membrane lining the naso-pharyngeal cavity and the canals terminating in it, a condition known under the name of coryza, which, commonly with a few days' confinement to an equable temperature, the inhalation of emollient and astringent atomized fluids, yields and passes away, the nasal mucous membrane regaining its normal condition. The circumstances, however, under which the rhinoscopist is called upon to act are somewhat different. The inflammation, instead of receding, becomes chronic, sometimes occupying the whole of the mucous membrane, covering the rhinal chambers, or what is more common, confined to a limited portion only; at least, the inflammation, even if it be general, has produced greater changes in some localities than in others. This chronic form of rhinitis is often persistent and always difficult to cure. It has been most often observed in young persons of a scrofulous taint, but no age or constitution is exempt from it.

The symptoms are a discharge of rhinal secretions of a varying character, usually fluid, yellowish or greenish, running from the nostrils, but sometimes thick and crust-like in form, which, clinging to the parts, produce such an amount of irritation that the patient tries to rid himself of the annoying sense of stuffing in the nares by making strong aspirations through the nose, by which he often succeeds in dicharging the crusts through the throat and mouth. These are always odorous and often of the most offensive character. Patients are not always aware of the strong odor, as in the cases of females, who more particularly suffer from nasal catarrh, which is always increased at the menstrual periods, and sometimes only occurs then. The nares are stuffed up, compelling the patient to breathe through the mouth, and the atria leading into them are red and injected.

The appearances, as shown by the rhinoscope, are deep redness or bluish color of the tubinate mucous membrane, which is also hyperæmic, swollen and covered with patches, strings of pus or muco-purulent matter, and here and there, perhaps, evidences of erosion.

I may mention as illustrative of chronic

rhinitis, the case of Mrs. W., æt. 23, sent to me July 6th, 1870, by Dr. Keys, of Philadelphia, for treatment. Her history is as follows: In the fall of 1868, she was caught out in a shower of rain and caught a severe cold. The usual acute catarrhal symptoms followed, which, in a few days, subsided into a milder form, but easily excited to renewed acuity by the slightest exposure to alterations of temperature. In one of these exacerbations, pain began to be felt in the ears; external otitis was established in both, which finally culminated in suppuration, the abscesses bursting spontaneously. The mucous membrane of the soft palate also became much swollen, forming a tumor which almost reached the tongue. The teeth ached, and there was severe pain in each side of the face. With the view of relieving the pain, the medical attendant pulled out in vain two molar teeth, on the supposition that they caused it. The entire nose partook in the catarrhal inflammation and swelled enormously, the skin being tightly bound across it, so that she felt apprehensive that it would burst, and the nasal mucous membrane protruded from the nostrils in two tumor-like processes, completely occluding the passages. The pain at this time was agonizing, depriving her of sleep for several days and nights.

This condition of things disappeared and reappeared two or three times, when a considerable depression of the cartilage of the nose, sweeping from the tip of the nasal bone to the lobulus, presented itself and has remained permanent ever since the result of atrophy from the prolonged swelling and inflammation.

Present Condition.—Anterior Nares: The mucous membrane of both nares is seen to be of a deep red color, and that on the right turbinate bone much hypertrophied, and projecting anteriorly in a tumor or polypoid form, and indeed was supposed, by several physicians under whose observation the lady fell from time to time, to be polypus, and an operation had been proposed but declined by the lady.

Posterior Nares: The conditions for rhinoscopic examination were exceedingly good, so that I readily succeeded at the first setting in getting a good inspection. The mucous membrane was deep red, everywhere swollen and much injected, several leaches of vessels being seen on the posterior aspect of the velum, and quite a large one upon the orifice of the right Eustachian orifice. There was much thickening of the membrane over the septum in the right nares, so that it projected across and touched the turbinate bones opposite, completely occluding the passage. At the base of the posterior edge of the septum, leaning to the right side, was one of these little tumor-like elevations of the mucous membrane, alluded to by both Czermak and Semeleder, as occurring sometimes in those who never have had any nasal difficulty. It was covered with a pellet of muco-purulent matter, which I removed with a brush to see its surface, which was of a pinkish hue and granular.

The Eustachian orifices were swollen and a patch of yellow secretion reposed in the depressions of each. The bridles running across the fossæ of Rosenmüller had, clinging to the little pit formed by them, patches of muco-purulent matter, and on the right side there was a denuded surface from which occasional hemorrhage occurred.

The nostrils are both closed, and the patient has to sleep with the mouth open, having frequently to rise in the night to disembarrass herself of a mass of blood-tinged purulent matter, and to moisten the parched-feeling throat and pharynx.

The inflammation had traveled into the ears, causing pain and deafness; into the larynx, causing cough and irritation, and upon the laryngeal surface of the epiglottis there was a small papillary growth. The conjunctivæ were injected, and sensitive to the light.

This patient, immediately put under treatment; a sixty grain solution of nitrate of silver was injected into the naso-phyrangeal cavity with a curved-nozzled syringe, and occasionally the phyrangeal walls and Eustachian orifices were swept with a camel's hair brush moistened in a strong solution of tincture of the chloride of iron. The solution of the nitrate of silver was also applied freely anteriorly with a camel's hair brush. In ten days the patient was nearly restored to health, after suffering for two years, the last spots to yield being the Eustachian tubes and the fossæ of Rosenmüller, which are still injected and secrete a thin purulent matter, but nothing like as much as when the treatment was first began. This case is still under treatment, and the remedies are now being directed to the spots above indicated.

The local treatment of chronic rhinitis con-

sists in the application of solutions of nitrate of silver, iodine, etc., with a brush, nasal douche, containing a solution permanganate of potassa, sulphate of zinc and copper, bi-chloride of mercury, etc.

The liquids for the nasal douche, may be employed in the vessel suggested originally by Prof. T. WEBER, of Halle, seen in the annexed cut.

FIG. 12.—NASAL DOUCHE.

A glass jar, A., having a long elastic tube, B, attached, terminating in a nozel, C, which by means of a little disk of India rubber so occludes the nostril that the liquid cannot es-

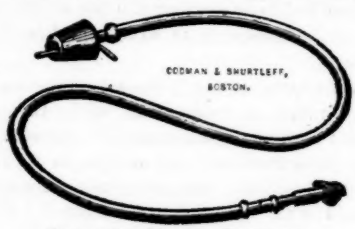

FIG. 13.—NASAL DOUCHE.

cape exteriorly. The letter D indicates a joint formed by a short glass tube within the rubber tube, to which nozzels of different sizes may be attached, according to the capacity of the atria. Another form of the douche, designed by Dr. OLIVER for office use, is shown in Fig. 14; the jar is mounted upon a black-walnut stand. The rubber tube, shown in Fig. 14, may be attached to any bottle, the mouth of which the stopper will fit. The little tube, D, running through the cork, permits the air to enter the bottle when it is inverted to allow the water to issue from the tube by its gravity. Of course, in employing any of the preceding instruments, the reservoir must be raised above the level of the head, but the latter must not be inclined too much forward or the water will gain access to the frontal sinuses and produce violent headache, from which the writer while experimenting upon his own person, has several times severely experienced.

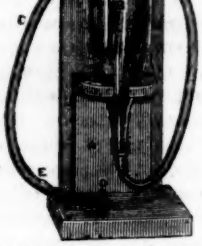

FIG. 14.—ANOTHER FORM.

Even worse damage may ensue by the fluid being forced through the Eustachian tubes into the tympanum, and produces inflammation of that cavity, as I have seen occur in one instance when the patient was submitted to a douche of cold water, the reservoir being held very high. This person subsequently came under my care for tympanitis; she says the douche produced at the time severe pain and pressure in the ears, and she refused to repeat it, although so ordered by her physician.

I still use the syringe in preference to the douche, by which I can obtain the most perfect and thorough contact of my remedies, either in limited quantity or continuously.

(*To be continued.*)

DROPSY OF THE AMNION—TAPPING—PREMATURE LABOR—DEFORMED FŒTUS AND ADHERENT PLACENTA.

By J. B. CORY, M. D.

Of Patch Grove, Wisconsin.

Sept. 26th, 1869, I was called to see Mrs. H. P., married at 16; present age, 33; in sixth month of ninth pregnancy.

Her abdomen was enormously distended, and she was suffering severely with pain and soreness in the right hypocondrium and right lumbar region, with tenderness of the whole abdomen; pulse 80; surface cool and moist, urine scanty and high colored; bowels regular; there was no evidence of inflammation of either uterus or liver, other than the pain and tenderness; and I was of the opinion, that this was caused by the distention of the uterine parietes, and pressure upon the abdominal viscera. I prescribed morphia, ¼ gr., and ext. hyoscyamus, 2 grs., in pil. every two hours, till pain was re-

lieved, and bitart. potassa, ℥j; acetate potassa, ʒij; aqua font. Oj, a wineglassful every four hours, with the vague hope that it might carry off some of the superabundent fluid, by the kidneys, or at least prevent its further accumulation. Applied sinapism to side.

After taking six doses of the anodyne, she got so much relief, as to fall into a quiet sleep, for several hours. The diuretic increased the secretion of the kidneys, but failed to relieve the distention, and as soon as the influence of the morphia was gone, the pain returned; but by continuing its use, she kept quite comfortable for two weeks, when it seemed to lose its power and I ordered belladonna plaster. This, with the morphia and hyoscyamus pills, gave relief for a week more, when the pain and distress returned with redoubled violence, and notwithstanding the use of local applications, of liniments and plasters of an anodyne nature, and the internal exhibition of opiates etc., she failed to get scarcely a moment's peace day or night. Though she was a small, spare woman, she was now several feet in circumference, the abdomen hard and resisting; she was becoming weak and exhausted with suffering, and I became fully convinced that nothing but tapping the amnion would prevent a fatal result.

By a vaginal examination I ascertained that the os would admit the point of the index finger. I accordingly introduced a curved trocar and canula (such as is used in the rectal puncture of the bladder) cautiously within the os, and passed it up as far as possible between the membranes and uterus posteriorly; then carefully protruded the point of the trocar and surprised the patient and friends by a rush of water, that saturated the bedclothes, ran through two beds of feathers and straw, and filled a ten quart pail placed under the bed to receive it.

The relief was immediate, and the patient dropped into a quiet sleep, from which she was aroused in a few hours by commencing labor which proved to be quite easy, and in about six hours she was delivered of a still-born male child, with talipes and otherwise deformed. The right leg was flexed upon the thigh and could not be extended beyond a right angle; the right arm the same. The hands were clubbed, the head misshapen, the joints enlarged, and the flesh wasted. The appearance was very much that of a person who has had chronic rheumatism for a number of years. I regret that I could not obtain a photograph of it.

My patient was now quite comfortable, though weak, but her trouble was not yet ended; for, after waiting three hours for the expulsion of the placenta, I found that it was adherent. I therefore introduced my hand within the uterus, detached and drew it away, but not without some difficulty and a good deal of suffering on her part.

She was very weak and exhausted for several days, but with good nursing and careful treatment, made an excellent recovery, and is now in the enjoyment of better health than she has had before for years.

The above case was quite interesting to me in several particulars. I had never heard of a case of the kind before, and could not find the disease mentioned in any of the text books that were accessible to me at that time.

I hesitated some time before puncturing the membranes, knowing that it would in all probability induce premature labor and destroy the child. I acted upon the same principle recognized by nearly all obstetric writers, that we are justified in destroying the life of the child when it is *necessary*, to save the life of the mother.

Several questions have presented themselves to my mind in connection with this case which I confess myself unable to answer.

1st. Was there any connection as to cause and effect between the abnormal accumulation of fluid and the deformed fœtus? If so which was cause and which effect? or were they both the effect of some other cause or causes?

2nd. Did the same inflammatory action that glued the placenta to the uterus also cause an excessive effusion of fluid within the amnion?

3d. Did it affect the fœtus in any manner; if so, how?

A New Anæsthetic.

M. Sauer, a surgeon-dentist of Berlin, after having performed various comparative experiments with anæsthetic substances, has come to the conclusion that the very best is a mixture of protoxide of nitrogen, chloroform and atmospheric air. He considers this compound to be free from the dangers attendant on the use of either chloroform or the protoxide alone. The proportions which he advocates and employs are the following: Liquid chloroform, six grammes; atmospheric air, three-quarters of a litre; and protoxide of nitrogen, sixteen litres.

Hospital Reports.

PHILADELPHIA HOSPITAL.

Surgical Clinic of

F. F. Maury, M. D.

Lecturer on Cutaneous and Venereal Diseases in the Jefferson Medical College, one of the Surgeons to the Philadelphia Hospital—etc.

And R. J. Levis, M. D.

Lecturer on Diseases of the Eye in the Jefferson Medical College, Surgeon to the Wills and Philadelphia Hospitals—etc.

(REPORTED BY RALPH M. TOWNSEND, M. D.)

DR. LEVIS' CLINIC.

Gentlemen:—I first bring to your notice two cures of vascular cornea, constituting the affection known as

Pannus.

This vascularity appertains to the epithelial surface of the cornea. When in its normal condition the cornea is non-vascular. The man before you is practically blind, though his cornea may be transparent, yet it is obscured by the vessels which cover it. In health the vessels run to the margin of the cornea, and then return by looped extremities. After long-continued irritation these vessels creep over the surface of the cornea. The operation consists in destroying the continuity of these vessels. Such a procedure is known as peritomy or syndectomy. We cut not only the conjunctive but the sub-conjunctive tissue in which the vessels are lodged. Only half the operation is performed at one sitting, and the eventual repeated on the remaining half of the circle. [Dr. Levis now had the eye lids separated, and grasped with a pair of forceps the conjunctive and sub-conjunctive tissue. The pinched up portion he excised deep enough to expose the sclerotic coat of the eye. A gutter was thus made around half the margin of the cornea. The patient was directed to keep at rest and have the eyes bandaged.]

Hard Cataract.

I now show you an aged man with hard or senile cataract, caused by change in the integral structure of the lens. If we have cataract of the body of the lens, the latter is striated. When the cataract is confined to the capsule of the lens, we have irregular opacity. If we see opaque lines in the form of a Y, we know the change has followed the lines of elementary formation of the lens. There is a manner of forming a prognosis as to the rapidity of the development of cataract. If the radiating lines are broad, the cataract will progress rapidly, and the patient will probably become blind in six months or a year. If the opaque lines be faint, the time will be considerably longer. Now, the manner of operating for cataract is as follows: With a sharp-pointed and narrow-bladed knife I pierce the lateral margin of the corner where it joins the sclerotic, keeping the point of my insrument close to the posterior surface of the cornea. I make it emerge at a similar point on the opposite side. Then I cut directly upward, and just before I free the corneal flap, I depress the edge of my knife, so as to prolong the flap, and cut it obliquely. I now let the patient rest for an instant; then introducing a delicate hook through the incision, I catch the edge of the iris, and bringing it out through the wound, clip it off with my scissors. This constitutes iridectomy, and makes a large orifice of the pupil, through which the lens can be the easier withdrawn. Now, with another hook, which I gently pass over the anterior surface of the lens, I break the capsule. Slight pressure from below upward tilts the lens from its bed, and with this loop of wire I pass under the lens and thus extract it. The operation is painless; I give no chloroform. I pack, softly, some pledgets of picked lint over the man's eyes; secure them by slips of isinglass plaster, and do not remove them for a week.

DR. MAURY'S CLINIC.

Suppurating Bubo.

Gentlemen:—I first bring to your notice a man suffering with bubo, which is suppurating. There are three ways of opening a gland, which is filled with pus. First, by puncture and by the perpendicular and oblique incisions. You need not fear hemorrhage, except in those rare cases in which the epigastric artery pursues an abnormal course. I now quickly sink my knife in the gland, and press it verticaly upward, or rather describe an upward arc, while the point remains stationary, and then withdraw it.

I now bring before you a man who was an inmate of the institution while I was one of the internes, in 1862. He then suffered from stricture at the unusual site of the membranous portion of the urethra. Now, as I introduce a sound, I first meet with an obstruction about two inches from the external orifice. But a little pressure allows the passage of my instrument. You can use a little more force, not violence, in the spongy urethra, than in other parts of the tube. My instrument passes one or two old cicatrices, and finally encounters an obstruction at the membranous urethra. Before proceeding further, allow me to show you a new instrument, Volimier's for rupturing urethral strictures. You see it consists of two delicate bars of steel wire, which hinge at the distal end, when closed, being a sound, and when open, looking not unlike, a pair of scissors. Prof. Bumstead, of New York so modified this instrument, that the little tip would unscrew and a rat-tail flexible bougie be screwed on in its place. In the event of passing the

bougie, when the sound could not be passed, the latter could be attached to the former, and pushing it before, let it now pass the bladder and curl up, while the point of the hard instrument was thus introduced through the constriction. The instrument should always be introduced closed, so that the mucous membrane of the urethra will not catch in it and have pieces bitten out. Finally, to complete the instrument, there are heavy stillettes with grooves to suit the blades of the sound; these, guided by the blades, are driven swiftly and forcibly through the stricture and thus rupture it. [Dr. M. then ruptured the stricture according to the above method.]

This man will have to have a sound constructed of the size of the normal calibre of his urethra, and pass it once a week, during the remainder of his life, to prevent the recurrence of this affection. You see I can now readily pass a No. 14 sound.

UNIVERSITY OF PENNSYLVANIA.

June 8th, 1870.

Surgical Clinic of PROF. D. HAYES AGNEW, M. D.

(REPORTED BY DR. DE F. WILLARD.)

Urinary Fistules Resulting from Stricture—External Perineal Urethrotomy.

G. A. R., æt. 27; white.

GENTLEMEN: This man comes before you with the following history: Eleven years ago he contracted gonorrhœa; it was neglected and became a chronic gleet, which, however, gave no serious inconvenience until about 1863, while in the army, at which time he began to show symptoms of urethral or vesical irritation, and was treated for gravel, cystitis, etc., but with no relief. This irritation continued to increase, micturition became difficult, and at times would suddenly cease, but he never noticed any marked diminution in the size of the stream.

After his return in '65 his difficulties increased, and his sufferings were at times intense, being unable to void urine except by severe straining, and sometimes not at all for 24, 36, or 48 hours.

In '67, after violent expulsive efforts, suddenly something gave way in his urethra, and on the following day the surrounding parts were found swollen, inflamed and tender, which condition continued until in process of time an opening formed in the median line of the scrotum, and a discharge of pus and urine took place, and since that time urine has passed from this opening at each micturition. Other abscesses followed, and you will now see their various orifices upon the sides of the scrotum or insides of the thighs, looking like red teats or prominences, from all of which urine is sometimes passed.

Last year, he fell into the hands of a surgeon, who, recognizing the cause of all his trouble, made an exploration of the urethra, and found numerous dense, unyielding strictures; one, just behind the glans, quite tight; a similar one a little farther on, and several lesser ones between this point and the membranous portion, at which latter place was found one so tight that all attempts to enter the bladder was unavailing. Since that time the patient has been under treatment, and dilatation of the strictures nearest the glans has been effected to a considerable degree; although one about two inches from the meatus still grasps the instrument quite tightly; and at the membranous portion is a bad one, extending for some distance, and is very dense and unyielding. The urethral tract has thus been kept open, but to an imperfect degree; and this constant discharge of urine renders the man's life miserable, and unfits him for physical exertion to such an extent that he has been sent to us from the country for operative relief.

We have here, then, a clear history, such as is usually found in these cases. A man contracts gonorrhœa; it assumes a chronic character; inflammatory deposits and indurations narrow the canal, forming strictures; gradual dilatation and attenuation of the urethral walls takes place behind these strictures; at last during violent expulsive efforts, the canal ruptures; urine makes its escape into surrounding structures; abscesses follow, opening upon the surface, and we have a fully-developed urinary fistule.

Oftentimes the urine forces itself into all the tissues of the perinæum, making its way in the direction of least resistance, which is forward toward the scrotum and penis, and upward upon the abdomen. It cannot pass down the thighs, since the deep layer of the superficial fascia is firmly attached along the rami of the pubes and ischia; neither can it pass backward, since this same fascia unites with the anterior layer of the deep perineal fascia. The forward course, then, is the only route which can be taken when the rupture is in front of the membranous portion. When extravasation has taken place, and swelling, fluctuation, etc., are perceptible, it is usually the best plan freely to incise the perinæum, thus allowing escape of the fluids, and preventing any further burrowing with its resulting injuries, which rule, will also hold good in acute traumatic injuries of the urethra. You may produce a fistule, but this is safer than allowing the urine to remain confined, and often the wound will heal of its own accord and leave no such sinus

This man can now pass his water with comparative comfort; still, he is often unable to hold it more than half an hour, and at other times suffers great pain during its passage; and there is a constant discharge from each of these openings. His condition, therefore, is such as to justify an opera-

tion, but its prognosis will depend upon the condition of his urethra and the extent of the stricture; and these, I find by exploration to be favorable, since a sound of good size can be carried into the bladder without difficulty. He has a slight, continuous discharge from the urethra, and the whole tract is tender to the touch. He informs me that some of the sinuses have closed of their own accord, so that there are now but four remaining; and the central one is probably the first that opened, the others being but offshoots or branches, there being but one break in the urethra. I carry a grooved sound into the bladder, and taking a probe, easily pass it through the first fistule down until it strikes the staff; and then traverse all the other fistules with similar probes, and find them all passing down toward this central one, where I can feel them impinging upon my first probe.

This then, is a favorable case for operation, and promises us good hopes of complete success. The question as to the justifiability of this operation of urethrotomy has been discussed with warmth by various surgeons, extremists contending, on the one hand, that the operation is too hazardous to be undertaken merely for the relief of the complaint; on the other, that it should be performed in *every* case of narrow stricture. The proper course lies between. Each case should be individually studied, and a decision arrived at, according to the state of impermeability or resiliency of the stricture. Extensive disease of bladder or kidneys would, of course, contraindicate any interference. The cases justifying operation are comparatively small, and every available means of relief should be faithfully tried before attempting such a procedure. In regard to the dangers of the operation, I think they have been over-rated, but, of course, the patient has to run all the risks of hemorrhage, infiltration of urine, erysipelas and pyæmia; still these dangers may be greatly lessened by careful attention. Its success or failure will depend largely upon the condition rendering the operation necessary, which may be desperate in itself. It is often the last and only resource, but should always be undertaken with great caution.

In regard to the permanent benefit to be derived, I am certain that in a majority of cases, the fistules may not only be healed but by the persistent passage of an instrument for an indefinite length of time—at stated intervals, perhaps, all through life, a return of the difficulty may be entirely prevented; but without this precaution there is always a liability to such return.

When the stricture is impermeable to an instrument the difficulty of operation becomes greatly increased, since the urethra may be so tortuous and contracted as to be scarcely recognizable from the surrounding fistules, and the surgeon is obliged to proceed with extreme caution. It has been recommended in these cases that the bladder be distended in order that when the urethra cannot be recognized, assistance may be given by pressing above the symphysis pubis, thus causing the water to flow away and indicating the canal. It should be remembered that even where a small instrument cannot be passed, yet it is sometimes possible to introduce a delicate whalebone bougie, thus giving a guide to the track, and preventing the mistake of slitting up a false passage.

In the case before us we have not this complication, since I have already introduced a grooved staff of moderate size, and the operation will therefore consist in cutting down upon this in the mesial line of the scrotum, and dividing the whole of the cicatricial tissue of the urethra, also slitting up the various sinuses that they may granulate from the bottom. The finger should be introduced into the rectum to insure greater safety, and no portion of the stricture should be allowed to remain undivided. I shall not retain a catheter in position after the operation, for I am confident that its presence is prejudicial rather than beneficial, and that it does *not* prevent the urine from coming in contact with the freshly cut surface, for it will still pass out around the catheter, and through the wound, no matter how large the instrument may be.

Moreover, I am convinced that it retards the healing of the wound, and increases the danger of another fistule; that it is sometimes the cause of "urethral fever;" that it may set up an inflammation of the bladder, and even cause perforation, peritonitis and death, as occurred in the practice of Prof. Spence of Edinburgh; and lastly, if long retained, it may become incrusted by the urinary salts, and thus add to irritation.

The safer and better plan, and the one which I shall pursue in this case, is as follows: This man has been under training for a week, and has learned to introduce the instrument for himself, since upon this depends in a great measure the final result of the operation. After the operation, the urine will be allowed to pass through the wound as it pleases, since it will do no more harm than after lithotomy, until such time as granulation has fully commenced, the catheter, meanwhile, being passed but once daily, merely to keep the track of the urethra well open. After this time, however, he will be instructed to draw his water as often as necessity may require, thus preventing anything from passing over the healing wound, and giving us a better result than could occur with a long-retained catheter.

This case is an instructive one, since it shows you the results of neglecting a stricture during its formative stage, when it is best treated; and the consideration of which I will take up as cases present themselves.

[The operation as described was then performed,

a free external incision being made, and the urethra divided to the extent of two inches. A cold compress was placed in the wound to prevent hemmorrhage. No catheter retained. DE F. W.]

Subluxation of the Semilunar Cartilages.

J. G., æt. 28 years. This patient, who is a stout, robust man, and somewhat of an athlete, comes to us with the statement, that a few days since, while engaged in one of the Scottish games, which often require great strength, as you know, he suddenly felt something give way in his knee, while in a stooping posture, and that he immediately found himself unable either to walk or straighten the limb.

This accident had happened to him upon several previous occasions, and had always been relieved by the manipulations of companions, and it was thus successfully treated at the time above mentioned. He comes to us now complaining of resulting pain and stiffness of the joint, and desires advice as to the prevention of this inconvenient difficulty.

This complaint may arise from two sources; the first and more common, a displacement of the semilunar cartilages; the other, from movable bodies situated within the joint.

Movable bodies in the joints, first mentioned by Pare, though fortunately not common, yet when present, often become a serious source of annoyance and danger. They are found more often in the knee than in any other articulation, attributable perhaps, to its large size and greater liability to inflammation, and are here, as elsewhere, subject to great variety in size, number, consistence and structure. In size they are from that of a pea, to the volume almost of the patella itself, and sometimes flattened so as almost to resemble this bone. But their usual shape is irregular, dependent somewhat upon their number and position. Their structure is fibro-cartilaginous when young, advancing subsequently to cartilage and then to true bone. They are found either floating loose in the joint, or attached to the synovial membrane, upon the free surface of which they were probably originally developed, though it has been claimed that they are developed in the sub-serous tissues; yet this is improbable from the density of their structure.

Their original cause is still unknown, though they are doubtless the peculiar result of some form of inflammation, but as they are detached and float in the joint, they become a source of great discomfort by suddenly slipping between the opposing surfaces, giving rise to extreme pain, and effectually preventing locomotion until they again slide from their position into some less prominent portion of the articulation. When they are in great numbers, as sometimes happens, this difficulty becomes almost constant, and an operation for their removal is necessitated, since their irritation may produce a serious synovitis; interstitial deposits may take place and the patient become hopelessly lame.

When these inter-articular bodies exist we should endeavor to confine them in a fixed position by the use of laced bandages, etc., but they may resist all treatment, and ultimately require removal, which is, however, an operation attended with considerable risk. Syme and Goyrand have recommended subcutaneous incision of the joint, as I have done; but even with this precaution severe symptoms may follow. When these bodies are present they can usually be felt by the surgeon, upon the sides of the patella, a little above or below, but in the case before us I can discover nothing of the kind, and, therefore, conclude that he is suffering from an abnormal mobility of the semi-lunar cartilages, which are cup-shaped bodies attached to the head of the tibia, serving to deepen its surface for articulation with the condyles of the femur, and are held in position by the coronary ligaments and by slips to the crucial ligaments.

When now a violent wrench or twist is put upon these attachments, especially if they are abnormally loose, or the patient in a feeble, relaxed condition, they may give way entirely, or be stretched to such an extent as to allow the cartilages to slip from their natural position, and become wedged in between the tibia and femur, the leg being held in a semi-flexed position, and the patient unable to walk, while the pain is so severe as to sometimes cause syncope.

Sometimes the cartilages can be felt in their abnormal position, in which case there is no difficulty in diagnosis, but more often we are obliged to rely entirely upon the symptoms, since swelling soon takes place from pressure, and effusion occurs.

Reduction is best accomplished by placing the patient upon the edge of a table, the femur extending a little beyond the edge, then by a forcible flexion of the leg beneath the table, accompanied at the same time by a downward motion, dragging the head of the tibia away from the femur, we may easily cause them to slip into their original position, and the deformity will be instantly relieved. Another method is to bend the knee forcibly over the arm of the surgeon, which is placed in the popliteal space. After reduction there is strong tendency to a reproduction of the difficulty upon any violent exertion, and the knee should, therefore, be tightly enveloped in a tightly laced knee-cap, thus giving the needed support to the part.

[A firm knee-cap was ordered for the patient, and he was directed daily to use cold douches, stimulating liniments, etc., and to avoid all sudden movements or exertion.—DE. F. W.]

——Cholera is quite severe upon the west coast of Africa this summer.

Medical Societies.

OHIO STATE MEDICAL SOCIETY.

Report on Vaccination, by Wm. B. Davis, M. D., of Cincinnati.

Dr. Davis made an elaborate report on the subject of vaccination to the Ohio State Medical Society, at its late session in Cleveland, June 15th. It briefly treats of

1. The small-pox epidemic of 1868-69 in the United States.

2. The alleged degeneration of human vaccine lymph.

3. Animal vaccine.

4. Vaccino-syphilis; with

5. An *appendix* containing letters from Edward C. Seaton, M. D., Medical Inspector of the Privy Council, England; J. K. Barnes, M. D., Surgeon General, U. S. Army, and Wm. Clendenin, M. D., Health Officer of Cincinnati.

Its conclusions on these several points are as follows:

1. When care is exercised in the selection of subjects, there is no evidence that vaccine virus has lost its activity or prophylactic effects by continued human transmission; on the contrary the Jennerian lymph, now in use in the British vaccine establishment, and the "Findel Anstadt," Vienna, demonstates that its virtues are retained. The former was taken from the cow over fifty years ago, the latter seventy.

2. The evidence of the Profession of England, Germany and America is to the effect that lymph direct from the cow is not so certain to infect, is much more violent when it does succeed, and has no more protective power than human lymph. In France, where animal vaccine has been in general use for the past six years, it has not given any greater protection against small-pox. On the contrary, it seems to have given less, and the French are now returning to the practice of human vaccination.

3. The transmission of constitutional affections particularly syphilis, by means of the vaccine virus (a) is opposed by statistics, which report a reduction in constitutional affections, and an extension of the average duration of life, since the introduction of vaccination.

(*b*) It is opposed by the experience of the greatest vaccinators and syphilographers.

(*c*) It is opposed by pathology.

(*d*) It is opposed by the *experimentum crucis*, the use of lymph from the arm of a syphilitic patient.

4. A large proportion of the alleged cases of vaccinal syphilis are based on insufficient or defective evidence; the remainder may be reasonably accounted for, without compromising the vaccine, on the grounds

(*a*) Of the influence of prevailing diseases.

(*b*) A cachectic diathesis, and

(*c*) Latent constitutional syphilis.

The report closed with a recommendation that the Ohio Legislature be petitioned to enact a law requiring all pupils of public schools, and all inmates of other institutions, to be vaccinated, and to provide for the appointment of physicians who shall semi-annually inspect the pupils of public schools, and give a certificate to those who are protected; and no pupil shall be continued without a certificate of vaccination.

We forward you the chapter on animal vaccination:

Animal Vaccination.

Vaccination with primary cow-lymph is but seldom performed, on account of the severe constitutional effects which attend its evolution. With a view of modifying these effects, which experience has proven, bear no relation to the protection given, and were not essential to it, the primary cow-lymph is passed through a succession of heifers and then transplanted to the human subject, and this is termed *Animal Vaccination.*

Those who favor animal vaccination assign the following reasons for so doing:

1. The vaccine virus loses its protective qualities by successive transmission through the human subject.

2. Human vaccine may convey other diseases, particularly syphilis.

3. Animal vaccination is the surest method of obtaining and transmitting the vaccine virus in its original activity, without any danger of syphilitic taint.

Those who oppose it say that the above claims are mere assumptions which time and experience alone can establish. On the contrary, it is claimed that the experience of the past seventy years has demonstrated:

1. That vaccine virus improves upon each remove from the cow or heifer until it is fully humanized. Then it presents the Jennerian aspect, and has arrived at its full period of maturity when its infection and protection are the greatest.

2. Animal vaccine is more uncertain in producing infection, is more violent in its effects, when successful, and gives no greater immunity against small-pox than human vaccine.

These latter propositions are fully sustained by the testimony of those physicians of our country who have given the most attention to the subject of vaccination.

The English authorities are almost a unit in support of them. Dr. Seaton, in his *Hand book on Vaccination*, calls attention to the fact, that the

primary cow-lymph obtained at Beaugency, in 1866, after passing through three heifers, was used at the Academy of Medicine, Paris, and was found to improve by a few transmissions through the human subject. When some of it, thus humanized, and some of it continued through animals, were used in the vaccinations of the same subjects, the vesicles of the humanized lymph were manifestly the finer and better developed.

Hebra may be cited as an authority, if not an exponent of the German profession. Concerning him, my Vienna correspondent, before alluded to, writes: "In regard to Hebra's opinion about vaccination, I can only state that it is the same as that which prevails mostly in the medical world now. * * * Further, no return to the cow for fresh matter is necessary. The lymph derived from the cow is not nearly so certain to infect, is much more violent in its operation when it does succeed, and has no more protective power."

Animal vaccination has had a strong hold on France for the past six years; indeed, so general has its use become, that, to-day, human vaccine lymph can scarcely be found in any part of its territory.

M. Depaul, the official Director of Vaccination, espoused animal vaccination in 1864. Since then his eloquent tongue and fertile pen have made all France run wild upon the subject. I have now before me nine elaborate papers, which he has very kindly sent me, written by him at different times, between 1864 and 1870, strongly advocating Animal Vaccination, the degeneratin of human lymph, and the conveyance of syphilis by means of the latter.

From the first, these views met with a powerful and persistent foe in the person of M. Jules Guerin. He contends that a comparison of the evolution of the two vaccines evince a marked superiority in favor of human vaccination, and allow us to infer a like superiority for its preservative virtue.

Jennerian vaccination, he says, is cow-pox, spontaneously modified by the human organism—that is humanized. Animal vaccination is the artificial inoculation of cow-pox in the heifer, and direct vaccination from the heifer to man, without the intervention of the human element. He cites statistics to show that the success of animal vaccination compared with human vaccination, is as ten to thirty. Nevertheless, animal vaccinations became popular, and all France bowed down and worshipped the Calf.

The general use of animal vaccine in France, during the past six years, affords an opportunity, on a grand scale, of testing the comparative merits of the two vaccines.

Fortunately, we have a standard for comparison afforded us in Ireland, where vaccination was made compulsory in 1864, the same year that animal vaccination was introduced into France. In Ireland the vaccine lymph used was that furnished by the National Vaccine Establishment, which was obtained by Jenner himself from the cow, and has been perpetuated ever since by human transmission.

If the protective virtue of animal vaccine against small-pox is superior to human vaccine, we may expect to see it demonstrated by fewer cases of small-pox occurring in France, in proportion to its population, than in Ireland, during the period of 1864–70.

Let us examine Ireland first.

The following table is kindly furnished me by no less a person than the Medical Inspector of the Privy Council, England, Dr. Seaton, and is official:

The average annual deaths from small-pox in Ireland for the ten years preceding 1864 was 1,272.

Vaccination made compulsory from January 1, 1864. In 1864, deaths from small-pox, 854; in 1865, 347; in 1866, 187; in 1867, 20; in 1868, 19; in 1269, 3.

"There is not now (April 9, 1870), and has not been for nearly a year, any small-pox at all in Ireland."—*Seaton.*

Now let us turn to France and see how effectually animal vaccination has protected her from small-pox. The *British Medical Journal*, March 26, 1870, publishes a letter from its regular Paris correspondent, from which I extract the following: "In writing to the *Journal* on the 18th of October last, I alluded to the alarming prevalence of small-pox, the consequent panic, and the consequent demand for re-vaccination. Since that date the epidemic has continued; and laterally not only in Paris, but also in other towns in France, it has assumed formidable proportions and produced intense social uneasiness." April 30th, the same correspondent writes, "Animal vaccination has been a failure in this epidemic." For the week ending May 14th, there were 179 deaths from small-pox in Paris, exclusive of deaths in hospitals—population 1,825,274. (In London for the same week there were two from small-pox—population, 3,170,754.)

The results of the comparison then, may be briefly stated: *Human vaccination* made compulsory in Ireland in 1864. On April 9th, 1870, there was not a case of small-pox in all Ireland, nor had there been for more than a year.

Animal vaccination adopted in France in 1864. May 14th, 1870, there is a formidable epidemic of small-pox prevailing in France, which began in October, 1869, and shows no signs of abatement.

The French people are alarmed, and all Paris is placarded with warnings of the small-pox, and the necessity of vaccination. Upon every corner gaudy posters inform you that certain doctors are prepared with heifers, and will vaccinate from them at certain hours. Their offices and the adjacent streets

are said to be thronged daily with an immense multitude seeking protection from small-pox by means of the calf. It has been estimated that Dr. Lanoix, one of the more popular vaccinators, has received 10,000 francs in one day from vaccinations. His worship of the heifer, and his beautiful street-corner posters have not been in vain.

Not to detain you with details, I will say, that after an unparalleled faith in animal vaccination, and after a terrible opportunity of testing its merits, the French physicians and people are losing confidence in it, and are returning to human vaccination.

Very recently the medical officers of the Bureau de Beinfaisance of the Seventh Arrondissement of Paris, have unanimously adopted and signed the following declaration in favor of human vaccination:

"We, the undersigned, medical officers of the Bureau de Beinfaisance of the Seventh Arrondissement, after examining, watching, and comparing the results of the vaccination services established at the Mairie of the Seventh Arrondissement with vaccine lymph taken from the heifer, are of the opinion that the results are most unsatisfactory, even in the case of infants; and that this system ought to be discontinued; and request that Jennerian lymph be placed at their disposal."

I shall close this division of my report by quoting from *La France* a just tribute to a great man: "There are occasions when it is a duty resolutely to fight against the opinions of the many, and to show an uncompromising front to prejudices. It is in this spirit that for many years past M. Jules Guerin has, without truce and without giving an inch, conducted his brilliant campaign against animal vaccine. A campaign which has at last been crowned with success. The question is now definitely adjudicated; animal vaccine has fallen."

Editorial Department.

Periscope.

On Artificial Fecundation.

Dr. Girault, of Paris, lately read an essay before the Medical Society of the Pantheon, entitled "A Study on Artificial Generation in the Human Race," an abstract of which we translate from the *Wiener Medical Presse*, May 1: He recalled the experiment of Spallanzani, Holler, and others, and then spoke of his own attempts, which in a number of instances had proved successful, while in others they had failed. As far back as 1839 he had been consulted by a married couple, the wife 25 and the husband 27 years of age, who, although in apparent good health, had been united five years and were still childless. Dr. Girault used a glass syringe, and injected some of the spermatic fluid of the husband into the uterus. After repeating this on three separate occasions, she became pregnant, and was delivered of a healthy boy. The child died of croup when four years old, which his mother regarded as a punishment upon her for the method in which he was conceived, and refused to submit to another artificial conception.

In 1840, a musician called on Dr. Girault, on account of childlessness, resulting from a hypospadias. His wife was 24 years of age and healthy. Dr. G. threw some of the spermatic secretion into the uterus on the 27th of August, and on the 30th of the following March she was delivered of a healthy girl.

A man, sixty-five years old, married to a wife of twenty-seven years, had passed seven years without offspring. The pair applied to Dr. Girault, who, after four failures, succeeded so completely on the fifth attempt, that in nine months afterward the lady was delivered of a pair of twins, one boy and one girl The latter died after three months, but the former survived and was healthy when last heard of, at the age of nine years.

Dr. Girault reports in all twenty-seven attempts at artificial procreation in the human female, of which ten were successful, and others doubtless would have been, if the couples had been more persevering in their efforts, and allowed him to continue his endeavors.

The only instrument necessary is a uterine catheter with a funnel-shaped opening at the external end. Into this the sperm is placed, after the point has been introduced into the cervical canal, and blown into the cavity of the uterus. Proper care must be taken that the instruments is of the temperature of the body, and it is important to convince oneself that the semen contains active spermatozoa, with long and rapidly vibrating tails, as the latter is the sign of their fecundating power.

Medical Students in Great Britain.

According to returns to the Medical Council, in 1869, 240 more students registered in that year than in 1868. The numbers for 1869 are—for England, 530; for Scotland, 317; for Ireland, 317; in all, 1,164. The numbers in 1868 were—for England, 483; for Scotland, 265; for Ireland, 175; in all, 924.

MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, JULY 23, 1870.

S. W. BUTLER, M. D., D. G. BRINTON, M. D., Editors.

☞ Medical Society and Clinical Reports, Notes and Observations, Foreign and Domestic Correspondence, News, etc., etc., of general medical interest, are respectfully solicited.

Articles of special importance, such especially as require original experimental research, analysis, or observation, will be liberally paid for.

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MATERIA MEDICA AS AN ELEMENT IN MEDICAL EDUCATION.

It is to us quite incomprehensible how many medical teachers, and some of them eminent ones at that, can so entirely misunderstand the value of a knowledge of materia medica to the practicing physician. A year or two since, when there was a meeting of professors of medical schools at Cincinnati to map out a better plan of medical instruction, part of the programme recommended was the dropping of the study of materia medica from the course.

Quite recently Professor HUXLEY distributed the prizes at University College, London, and took the opportunity to make some remarks on medical education in general. He spoke of various shortcomings in the present English system; for instance, the want of practical instruction in physiology. The remedy he suggested was the centralization of the teaching of the theoretical branches of the profession in not more than three central institutions, where able professors could be maintained. He would cut down these theoretical branches to a considerable extent, and would have the elements of physical science taught in the primary schools—physics, chemistry, botany, and the like. Comparative anatomy ought to be absolutely abolished, although it would involve the putting back of such branches as zoölogy and botany to the student's early education in ordinary schools. He would also abolish Materia Medica. [Cheers.] He could not understand why gentlemen who had to practice medicine should be obliged to learn all about drugs, and where they came from; they might just as well be required to learn all about cutlery because they used knives. [Laughter and cheers.]

This we regard as the feeblest kind of *ad-captandum* argument, which would astonish us more if that distinguished professor had not, on various previous occasions, condescended to the same sort of flashiness.

We presume he and any one would grant that it would be necessary for the surgeon to know all about cutlery, if this knowledge was necessary to assure him that his knives are of any value.

One *must* know Materia Medica, and know it well, to be able to judge whether the drugs he buys are of any worth or not. Probably three-fourths of the physicians, both in this country and England, dispense their own medicines.

Should they not be able to buy them intelligently?

Let the public once know that physicians are ignorant about drugs, and they will deservedly lose confidence in them. To take an analogy more correct than Professor Huxley: the shoemaker who knows nothing of leather is not the man to make our boots.

Notes and Comments.

A Case of Triplets.

Our correspondent, Dr. L. L. Jones, of Deerfield, Mich., writes us:

"I was summoned on the morning of the 25th of June to the bedside of Mrs. C., æt 32. Weight, in ordinary health, 115 pounds. Found her in labor for the fourth time. She progressed finely, and was soon delivered of three boys in quick succession. The first weighed six pounds four ounces; the second, five pounds ten ounces; and the third five pounds two ounces. The first two were attached to a common placenta, the third had a placenta of his own. Seventeen pounds of baby, all doing well."

Suicides.

In England persons who attempt the destruction of their lives are not left unquestioned. They are taken in charge by the police, and if uninjured, are examined at once by a magistrate. If so disabled as to require medical treatment they are conveyed to some hospital, and not lost sight of by the police until the case has been passed upon by the magistrate. He may either commit them, or give them in custody to any friend who will give security for their restraint. All this has been so long discontinued in this country, that the idea of crime is no longer connected with such attempts. The universal presumption is that the person who attempts self-murder is insane, and, therefore, not amenable to judicial inquiry. To commit the felony of suicide, as defined by Blackstone, a person must be of years of discretion, and of sound mind. Suicide as a crime is no longer recognized in this country, and the term ceases to be applicable. No penalty is inflicted for the attempt, and posthumous proceedings against the estate are unknown here.

Composition of Pure Wines.

Port, pale sherry and Madeira contain, each, 20 per cent. of alcohol, or 4 oz. to the imperial pint. The first has, in addition, 1 oz. of sugar to 80 grains of tartaric acid; the second, 80 grains of sugar and 170 of tartaric acid, and the third, $6\frac{3}{4}$ drachms of sugar and 100 grains of the acid. Brown sherry is stronger than pale, both in alcohol and acid, but contains somewhat less sugar. Champagne comes next in strength, its proportion of alcohol being 3 oz. in the pint, with the addition of no less than $2\frac{3}{4}$ oz. of sugar, and the same quantity of acid (90 grains) as brown sherry. Burgundy contains $2\frac{1}{2}$ oz., claret, 2 oz., hock $2\frac{1}{4}$ oz., and Moselle $1\frac{1}{2}$ oz. of alcohol, and of sugar in the proportions, respectively, of 160, 161, 170, and 140 grains of tartaric acid. Claret is the only one of the four that contains sugar.

The Yellow Fever.

Reports from New York state that vessels are daily arriving at the quarantine grounds from ports in South America and the West Indies, infected with yellow fever, and bringing evidences of illness and death abroad from this disease during their voyage.

A New Cause of Arsenical Poisoning.

The pursuit of science is attended with dangers as well as difficulties. M. DELPECH, in the *Annales d'Hygiène*, for April, calls attention to some cases of arsenical poisoning from stuffed birds and animals. It is well known that the taxidermist relies largely on the preservative powers of arsenic, and in large collections the air becomes charged with minute particles of this poisonous metal, and may induce, in curators and students, troublesome and even dangerous symptoms.

Correspondence.

FOREIGN.

LONDON, June 16, 1870.

EDS. MED. AND SURG. REPORTER:

Spending now only a few days here on my way to the continent, I am unable to visit any of the hospitals or other medical institutions. When I return, some months hence, I hope to communicate details in regard to hospital management, etc. I wish to record now, however, a few facts in connection with recent therapeutics, for which I am indebted to Dr. HORACE DOBELL, Senior Physician to the Royal Hospital for Diseases of the Chest, London, etc., and editor of "Reports on the Progress of Practical and Scientific Medicine in Different Parts of the World," the first volume of which work has been recently noticed in your journal.

Vaporization of Carbolic Acid.

This method of applying carbolic acid for remedial and disinfectant purposes, is just coming into use, and is doubtless new to your readers. A volatilizing apparatus for the purpose has been devised by Messrs. Savory & Moore, chemists, of New Bond

street, London, by means of which any quantity of carbolic acid may be diffused through the air of rooms, hospital wards, etc., in a slow but constant current. In this manner the vapor has been used in the treatment of contagious and pestilential diseases, also in phthisis, whooping cough, etc., and in such local complaints as quinsy, diptheria, etc.

The vaporizer may, of course, be used for other fluids as well as carbolic acid.

In this way carbolic acid may be brought in contact with atmospheric germs or parasites, with the organ of respiration, or with any local surface requiring the aid of antiseptics. Small quantities only of the acid are volatilized, in a room of ordinary size, at regular intervals, for from ten to twenty minutes, night and morning. This is all that is required for medicinal and sanitary purposes such as disinfection, inhalation, fumigation, etc., as the acid is energetic and the whole amount vaporized is dispersed through the air.

The disagreeable odor of carbolic acid is not at all difficult to disguise. An *aromatic or perfumed carbolic acid* is prepared by the admixture of oil of lavender, etc., which diffuses an agreeable odor of incense, but leaves the virtues of the acid unimpaired.

In order to disinfect rooms, bedding, clothes, etc., after small-pox, fevers, and other infectious diseases, charge the vaporizer as directed above, with the full quantity (about one ounce) of carbolic acid, and when the vaporization commences, place it on the floor in the centre of the room, and close the doors and windows, not allowing them to be opened for four or five hours. The clothes, bedding, etc., should be arranged loosely over the backs of chairs, or suspended so as to expose as much of them as possible to the action of the vapor. This should be repeated morning and evening for three days, after which the air should be freely admitted to the room for several days.

This convenient method of applying the most powerful of all known antiseptics will undoubtedly soon come into use. By means of a flexible tube, fitted to a modification of the volatilizer, the vapor of carbolic acid may be conducted to and kept in contact with a wound or diseased surface so as to secure its exclusive local action.

Pancreatic Emulsion and Pancreatine.

Pancreatic emulsion, and pancreatine, scarcely known in American practice, are largely prescribed here in phthisis and wasting diseases. Dr. Dobell originated and first determined the value of the artificial emulsion of fat with pancreatic juice. He has employed it more extensively than any one else, under the belief that in patients affected with scrofula and consumption, there is a defective action of the pancreas, and consequently an inability to properly digest and appropriate fat. His first experiments were made with an emulsion of beef-fat with the pancreatic juice of the pig. Very satisfactory results were obtained; and in cases in which cod-liver oil disagreed, pancreatic emulsion of lard oil was also used with equal success. The four principal pancreatic preparations now made by the well-known firm of Savory & Moore are: 1. Pancreatic emulsion of solid fat. 2. Pancreatic emulsion of cod-liver oil. 3. Pancreatic emulsion of lard oil. 4. Pancreatine.

The first of these, seems to be the preparation most generally prescribed by the profession. I notice that it is highly commended by Dr. Thomas King Chambers, Dr. Fuller, of St. Georges' Hospital, Dr. McNarma, and many others whose names are well known to American readers. It is in the form of a white paste, with the consistency of thick cream. Although the pancreatic juice unmixed with fat rapidly decomposes, this emulsion remains good for a long time. The dose is one to three teaspoonsful, repeated once or twice a day, and is usually administered in a cup of milk, to which a little brandy may be added. It should be taken two hours after a full meal, and warm drinks avoided for several hours afterwards.

While cod-liver oil frequently disagrees and then does harm by disordering the appetite, the well-made pancreatic emulsion of solid fat improves the appetite and the digestion. Unlike cod-liver oil, also, it can be administered for an indefinite time, if required. The pancreatic action of the emulsion rapidly converts a large quantity of a mylaceous food into dextrine and sugar, thus supplying to the blood at the same time with fat, an increased quantity of carbon from the carbo-hydrates. It is in this manner that Dr. Dobell accounts for the remarkable stability of the improvement obtained from this restorative agent after the failure, or only evanescent success, of cod-liver oil. In those cases in which cod-liver oil agrees, Dr. D. administers a teaspoonful of it directly after breakfast, and a tablespoonful of the emulsion in a cup of milk (or of water, in cases in which milk cannot be digested), two hours after dinner. In this way he supplies to the blood olein through the portal system, and pancreatised solid fat through the lacteal system. When cod-liver oil cannot be taken he administers the emulsion twice a day, two hours after breakfast and dinner.

Pancreatine is given in doses of from 3 to 5 grains in wine or water, or on bread and butter directly after food, or immediately after each dose of cod-liver oil.

Hydrate of Chloral

Is now employed in London practice in immense quantities. Dr. Dobell informs me he finds in almost every case to which he is called in consultation, that, whatever else may have been employed

or neglected, chloral has certainly been administered. The price has rapidly fallen from, at first 18s to 20s per ounce, to now 16s per pound. It is given in doses of from 15 to 60 grains. The vehicles ordinarily used are peppermint water and syrup of tolu, the chloral being in the proportion of 10 grains to the fluid drachm.

News and Miscellany.

Prostitution in Paris.

The Paris correspondent of the *Medical Times and Gazette* says: The Paris surgeons, who have much to do with the treatment of venereal diseases, seem pretty well decided to look upon prostitution (interpreted *vendre l'amour*) as a necessary evil, against which we cannot interfere as long as the woman who prostitutes herself is not diseased. Many hold that a woman has the privilege to sell her charms to whom she pleases, and that the medical police only exists for the purpose of seeing that disease is not communicated to the purchaser. For this purpose, for the protection of the public health, men are appointed whose duty it is to seize upon clandestine prostitutes, to carry them to the nearest station for medical examination, so that, if found infected, they may be sent to St. Lazare for treatment. To show that prostitution in Paris is a commerce, like any other, over which the government must watch, the mushroom trade was cited as a comparison. Here, too, agents are appointed for the purpose of seizing upon the venomous species; but in spite of this precaution, bad qualities are sold every now and then.

The officers *de mœurs* are but thirty in number for all Paris—a number altogether insufficient, I think. The average number of women sent to St. Lazare daily—thanks to the vigilance of these agents—is something like forty, showing that the officers are either very thorough in their duty, or else diseased women are very plentiful. There are two distinct sections at the St. Lazare Hospital; the carded women (*filles à carte*) are kept apart from the clandestine. M. Clerc is of opinion that the present system is a good one, and works as well as possible without too much interfering with personal liberty. Prostitution cannot be lessened by the authorities; it can only keep an eye over it, and see that it is carried on without infection. Nothing is so easy as to have a woman arrested for having communicated disease; and in the French army the soldier is forced to give the residence of the woman, or he is punished, and, if he gives a wrong address, he is equally punished. The master of a house who suspects his *bonne* of prostitution need but give her name to the Bureau de Mœurs, and she is immediately looked after. It seems really difficult to imagine what else could be done without adopting the measure proposed by M. Le Fort, but which to many persons seems rather severe.

State Hospital for Diseases of the Nervous System.

The Trustees of the New York State Hospital for Diseases of the Nervous System have secured the large building at the southwest corner of Second avenue and St. Mark's-place, and in a few weeks will open it for the reception of patients. It will be the first hospital of the kind established in this country—the one for the paralyzed and epileptic on Blackwell's Island being no exception to this statement, as its range is limited. It is the design of the Trustees to have an out-door department, at which patients residing at their own homes can attend and receive gratuitous medical treatment. The capacity for in-door patients will be about 25 beds, and a moderate price for board will be charged for the present, as in other hospitals. It is hoped, however, before long, to make all the beds free. The officers are: Wm. H. Appleton, President; Thurlow Weed, Vice-President; H. C. Fahnestock, Treasurer; Roswell D. Hatch, Secretary. The medical officers are: Dr. Wm. A. Hammond, Physician-in-Chief; Dr. Reuben A. Vance, Assistant Physician; Dr. T. M. B. Cross, Resident Physician; Dr. Austin Flint and Dr. Geo. T. Elliot, Consulting Physicians; and Dr. James R. Wood and Dr. Lewis A. Sayre, Consulting Surgeons.

Medical Department of the University of Wooster.

The President and Trustees of Charity Hospital Medical College, for the purpose of furthering the interests of medical education, and elevating the status of the medical profession in Ohio and throughout the West, have transferred to the University of Wooster all property, museum, records and rights in action of said Charity Hospital Medical College; in consideration of which the Trustees of said University have established, in the City of Cleveland, a medical college, which shall be known as the Medical Department of the University of Wooster.

Conservative Surgery.

Dr. Béranger-Féraud has undertaken, in the *Gázette des Hópitaux*, a review of the published cases where mere shreds separated from various parts of the body have been successfully reädjusted. The cases include partial or complete severance of portions of the nose, ear, tongue, fingers, hand, wrist, forearm, arm, and leg. These data, collected from many sources, and entailing a vast amount of trouble, will be extremely useful to those who wish to base their opinions of conservative surgery on actual facts.

A New Theory of Sleep.

Dr. E. SOMMER has contributed to the *Zeitschrift für Rationelle Medicin*, for 1869, a paper in which he promulgates the doctrine that sleep is nothing else than the result of a *deoxygenation* of the organism. According to his theory, the blood and the tissues possess the property of storing up the oxygen inhaled, and then supplying it in proportion to the requirements of the economy. When this store of oxygen is exhausted, or even becomes too small, it no longer suffices to sustain the vital activity of the organs, the brain, nervous system, muscles, etc., and the body falls into that particular state which we call sleep. During the continuance of this deep repose, fresh quantities of oxygen are being stored up in the blood, to act as a supply to the awakened vital powers. Rest produces, though in a less degree, the same effect as sleep in reducing the expenditure of oxygen.

Death of Dr. Copland.

We have just announced the death of a distinguished Surgeon of Scotland, JAMES SYME, and of Sir JAMES CLARK, of London, Physician Extraordinary (we believe his title was) to the Queen; and now we are informed by telegraph of the death of another distinguished man, well known in medical literature, Dr. JAMES COPLAND. It is but a few weeks, too, since the death of Sir JAMES Y. SIMPSON, of Edinburgh, was announced. Certainly the mortality of eminent medical men in England within a few weeks has been extraordinary.

Rules of Study.

Professor DAVIES, the mathematician, gives the following rules of study: 1. Learn one thing at a time. 2. Learn that thing well. 3. Learn its connections, so far as possible, with all other things. 4. To know everything about something, is better than to know something about everything.

Lead Poisoning.

As a preventive to lead poisoning Dr. Didierjean recommends the free use of milk. He has found it very successful in white-lead manufactories.

——A disease, which is called the spotted fever, it is said is raging in many towns in the northern part of the State of Maine.

——Those "magnetic springs" in Michigan have been investigated, and the mystery has been found in the iron tubing.

——Dr. Wolf, of Zurich, and other European physicians, are setting on foot a movement in favor of the decimal division of time.

——The appraiser at the San Francisco Custom House has seized a box of dried snakes, centipedes, bugs, etc., imported by a Chinese company as medicine.

——The census-takers in different parts of the country are collecting some very curious information. They find that the highest age attained by unmarried women is twenty-six years! It is well to have the point at which they cease growing older definitely fixed.

——The Chicago *Republican* thinks that the colleges are over-doing the "sheep-skin business." It argues that "either the granting of diplomas ought to be abolished entirely, or they should be conferred upon those alone who are really worthy of them. A correct example in the matter should come from the older and leading universities."

——It has been observed that in the south of Spain, when the south wind blows, linen spread out to bleach, instead of becoming white, attains a slightly yellow tinge. This effect is attributed to finely divided sand from the Sahara, carried by the wind across the Mediterranean from Africa.

——It takes an ordinance of one hundred and forty-eight sections, filling nearly four and a half long, close columns in a newspaper, to preserve the public health of the city of Brooklyn. The question is discussed there whether that ordinance was passed chiefly to preserve the public health or to give the newspapers a good advertisement.

MARRIED.

DILLER—DICKENSHIED. May 21st, by the Rev. Mr. Powle, at Reading, Pa., Dr. J. R. Diller, and Miss Henrietta Dickenshied, of Lehigh county.

KELSEY—KOUTZ. In Lexington, Indiana, on June 23d, by the Rev. John A. Campbell, Dr. J. S. Kelsey, and Miss Mary Koutz, daughter of the Rev. W. P. Koutz.

ROPES—MCCHESNEY. At Trinity Chapel, Elizabeth, N. J., July 12, 1870, by the Rev. Robert Lowrie, George H. Ropes, Esq., and Margaret A., daughter of Dr. John McChesney, of Potsdam, N. Y.

STRICKLAND—MATHEWS. At Owensville, Indiana, July 4, at the residence of the bride's father, by the Rev. Joel Hume, James S. Strickland, M. D., of Ft. Branch, Indiana, and Miss Annie Mathews, of Owensville, Ind.

WEAVER—HECKERT. June 9th, 1870, in the Presbyterian church, Shamokin, Pa., by the Rev. N. S. Buckingham, Dr. C. W. Weaver, and Miss Kate Heckert, both of Shamokin.

DIED.

DOWNEY.—Suddenly, in this city, on the 10th instant, Samuel Thomas, infant son of Dr. J. B. and E. J. Downey.

FOSTER.—In New York, July 13th, Conant, second son of Dr. S. Conant Foster, aged 10 years and 1 week.

KILDUFFE.—In this city, on the 11th inst., by accidenta drowning, Kate E., only daughter of Dr. Robert and Mrs. Ann C. Kilduffe.

KING.—Suddenly, on the 3d inst., at the residence of his brother-in-law, in Chester, Pa., Dr. S. Chase King, late Surgeon of the Fourth Penna. Vol. Cavalry.

PATTERSON.—In Cincinnati, July 12, of hemorrhage of the lungs, Mary M., wife of W. G. Patterson, M. D.